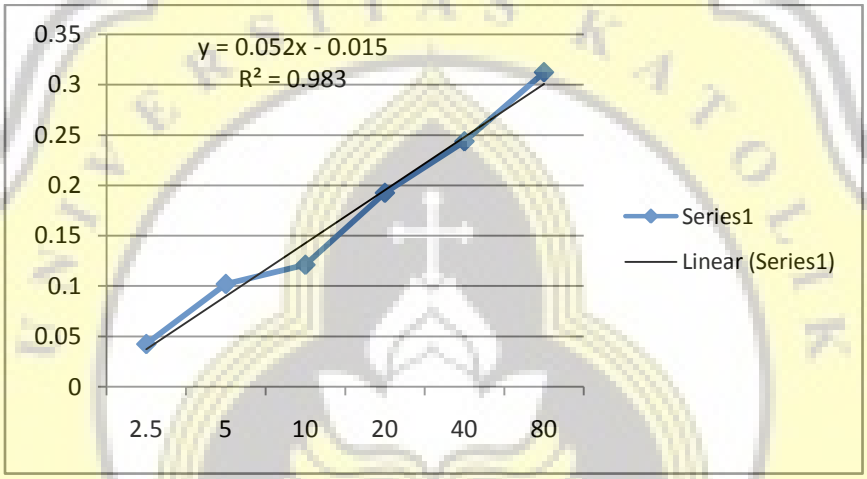
7. LAMPIRAN

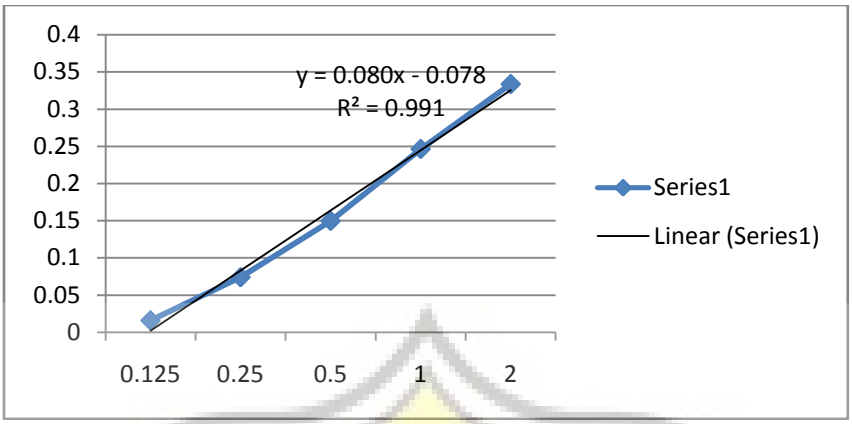
Lampiran 1. Kurva Standart Kadar Gula

ppm	absorbansi
2,5	0,0425
5	0,1021
10	0,1211
20	0,1925
40	0,2436
80	0,3122



Lampiran 2. Kurva Standart Vitamin A

ppm	Absorbansi
0,125	0,01573
0,25	0,0738
0,5	0,1495
1	0,2462
2	0,3335



Lampiran 3. Hasil Analisa Data Penelitian Utama

Tests of Between-Subjects Effects

Dependent Variable: Viskositas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.467E+010[a]	8	1833785304	944.729	.000
Intercept	2.271E+010	1	2.271E+010	11697.395	.000
WortelLemon	1.432E+010	2	7161958560	3689.694	.000
Pektin	249868042	2	124934021.1	64.363	.000
WortelLemon * Pektin	96497267.6	4	24124316.91	12.428	.000
Error	87348191.0	45	1941070.911		
Total	3.746E+010	54			
Corrected Total	1.476E+010	53			

a. R Squared = .994 (Adjusted R Squared = .993)

Viskositas

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
70% Wortel: 30% Lemon	18	6148.3333		
75% Wortel: 25% Lemon	18		12086.11	
80% Wortel: 20% Lemon	18			43281.78
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1941070.911.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Viskositas

Duncan[a,b]

Pektin	N	Subset 1	Subset 2	Subset 3
1.5%	18	17699.00		
1.75%	18		20891.83	
2%	18			22925.39
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1941070.911.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: kadar_air

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1235.329[a]	8	154.416	483.446	.000
Intercept	56476.959	1	56476.959	176817.9	.000
WortelLemon	1201.669	2	600.834	1881.091	.000
Pektin	31.623	2	15.811	49.502	.000
WortelLemon * Pektin	2.037	4	.509	1.595	.192
Error	14.373	45	.319		
Total	57726.661	54			
Corrected Total	1249.702	53			

a. R Squared = .988 (Adjusted R Squared = .986)

kadar_air

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
80% Wortel: 20% Lemon	18	26.6023		
75% Wortel: 25% Lemon	18		32.2609	
70% Wortel: 30% Lemon	18			38.1565
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .319.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

kadar_air

Duncan[a,b]

Pektin	N	Subset 1	Subset 2	Subset 3
2%	18	31.5343		
1.75%	18		32.1168	
1.5%	18			33.3686
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .319.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: ph

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.370[a]	8	.046	129.481	.000
Intercept	446.631	1	446.631	1250938	.000
WortelLemon	.346	2	.173	485.233	.000
Pektin	.019	2	.009	26.177	.000
WortelLemon * Pektin	.005	4	.001	3.257	.020
Error	.016	45	.000		
Total	447.017	54			
Corrected Total	.386	53			

a. R Squared = .958 (Adjusted R Squared = .951)

ph

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
70% Wortel: 30% Lemon	18	2.7828		
75% Wortel: 25% Lemon	18		2.8667	
80% Wortel: 20% Lemon	18			2.9783
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .000.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

ph

Duncan[a,b]

Pektin	N	Subset 1	Subset 2	Subset 3
2%	18	2.8528		
1.75%	18		2.8767	
1.5%	18			2.8983
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .000.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: aw

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.017[a]	8	.002	97.383	.000
Intercept	39.078	1	39.078	1815701	.000
WortelLemon	.016	2	.008	382.928	.000
Pektin	5.35E-005	2	2.67E-005	1.242	.298
WortelLemon * Pektin	.000	4	5.77E-005	2.680	.044
Error	.001	45	2.15E-005		
Total	39.096	54			
Corrected Total	.018	53			

a. R Squared = .945 (Adjusted R Squared = .936)

aw

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2
80% Wortel: 20% Lemon	18	.8260	
75% Wortel: 25% Lemon	18		.8621
70% Wortel: 30% Lemon	18		.8639
Sig.		1.000	.242

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.15E-005.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

aw

Duncan[a,b]

Pektin	N	Subset 1
1.5%	18	.8497
1.75%	18	.8503
2%	18	.8521
Sig.		.161

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.15E-005.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: padatan_terlarut

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	339.877[a]	8	42.485	308.273	.000
Intercept	213809.711	1	213809.711	1551428	.000
WortelLemon	293.040	2	146.520	1063.167	.000
Pektin	31.034	2	15.517	112.592	.000
WortelLemon * Pektin	15.803	4	3.951	28.667	.000
Error	6.202	45	.138		
Total	214155.790	54			
Corrected Total	346.079	53			

a. R Squared = .982 (Adjusted R Squared = .979)

padatan_terlarut

Duncan[a,b]

WortelLemon	N	Subset 1	2	3
70% Wortel: 30% Lemon	18	60.5222		
75% Wortel: 25% Lemon	18		62.1722	
80% Wortel: 20% Lemon	18			66.0778
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .138.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

padatan_terlarut

Duncan[a,b]

Pektin	N	Subset 1	Subset 2	Subset 3
1.5%	18	61.9222		
1.75%	18		63.0944	
2%	18			63.7556
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .138.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: vitaminA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	242656567[a]	8	30332070.93	104.698	.000
Intercept	3821168834	1	3821168834	13189.590	.000
WortelLemon	213552440	2	106776220.0	368.561	.000
Pektin	28351890.0	2	14175945.00	48.931	.000
WortelLemon * Pektin	752237.523	4	188059.381	.649	.630
Error	13036993.1	45	289710.958		
Total	4076862394	54			
Corrected Total	255693561	53			

a. R Squared = .949 (Adjusted R Squared = .940)

vitaminA

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
80% Wortel: 20% Lemon	18	5899.2842		
70% Wortel: 30% Lemon	18		8574.5399	
75% Wortel: 25% Lemon	18			10762.29
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 289710.958.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

vitaminA

Duncan[a,b]

Pektin	N	Subset 1	Subset 2	Subset 3
2%	18	7507.8187		
1.75%	18		8446.6039	
1.5%	18			9281.6918
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 289710.958.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: vitaminC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	24975.117[a]	8	3121.890	147.589	.000
Intercept	270116.456	1	270116.456	12769.898	.000
WortelLemon	23882.353	2	11941.176	564.525	.000
Pektin	1018.730	2	509.365	24.081	.000
WortelLemon * Pektin	74.034	4	18.509	.875	.486
Error	951.867	45	21.153		
Total	296043.440	54			
Corrected Total	25926.984	53			

a. R Squared = .963 (Adjusted R Squared = .957)

vitaminC

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
80% Wortel: 20% Lemon	18	41.8000		
75% Wortel: 25% Lemon	18		79.2000	
70% Wortel: 30% Lemon	18			91.1778
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 21.153.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

vitaminC

Duncan[a,b]

Pektin	N	Subset 1	Subset 2	Subset 3
2%	18	65.5111		
1.75%	18		70.5222	
1.5%	18			76.1444
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 21.153.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: kadar_gula

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3962.914[a]	8	495.364	52.423	.000
Intercept	182600.420	1	182600.420	19324.211	.000
WortelLemon	3903.753	2	1951.877	206.563	.000
Pektin	47.467	2	23.733	2.512	.092
WortelLemon * Pektin	11.694	4	2.923	.309	.870
Error	425.219	45	9.449		
Total	186988.553	54			
Corrected Total	4388.133	53			

a. R Squared = .903 (Adjusted R Squared = .886)

kadar_gula

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
70% Wortel: 30% Lemon	18	47.1530		
75% Wortel: 25% Lemon	18		59.4389	
80% Wortel: 20% Lemon	18			67.8598
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 9.449.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

kadar_gula

Duncan[a,b]

Pektin	N	Subset 1	Subset 2
1.5%	18	57.0312	
1.75%	18	58.0948	58.0948
2%	18		59.3257
Sig.		.305	.236

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 9.449.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Tests of Between-Subjects Effects

Dependent Variable: kadar_sineresis

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.542[a]	8	.818	7.035	.000
Intercept	737.699	1	737.699	6346.516	.000
WortelLemon	6.268	2	3.134	26.961	.000
Pektin	.200	2	.100	.861	.429
WortelLemon * Pektin	.074	4	.018	.158	.958
Error	5.231	45	.116		
Total	749.472	54			
Corrected Total	11.772	53			

a. R Squared = .556 (Adjusted R Squared = .477)

kadar_sineresis

Duncan[a,b]

WortelLemon	N	Subset 1	Subset 2	Subset 3
80% Wortel: 20% Lemon	18	3.2398		
75% Wortel: 25% Lemon	18		3.7903	
70% Wortel: 30% Lemon	18			4.0582
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .116.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

kadar_sineresis

Duncan[a,b]

Pektin	N	Subset 1
2%	18	3.6242
1.75%	18	3.6909
1.5%	18	3.7731
Sig.		.223

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .116.

a. Uses Harmonic Mean Sample Size = 18.000.

b. Alpha = .05.

Lampiran 4. Hasil Analisa Data Sensori

Test Statistics[a,b]

	Rasa
Chi-Square	3.066
df	2
Asymp. Sig.	.216

a. Kruskal Wallis Test

b. Grouping Variable: Jenis_Selai

Test Statistics[a,b]

	Tekstur
Chi-Square	15.427
df	2
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: Jenis_Selai

Test Statistics[a]

	Tekstur
Mann-Whitney U	257.000
Wilcoxon W	722.000
Z	-3.054
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: Jenis_Selai

Test Statistics[a,b]

	Overall
Chi-Square	7.812
df	2
Asymp. Sig.	.020

a. Kruskal Wallis Test

b. Grouping Variable: Jenis_Selai

Test Statistics[a]

	Overall
Mann-Whitney U	322.000
Wilcoxon W	787.000
Z	-2.027
Asymp. Sig. (2-tailed)	.043

a. Grouping Variable: Jenis_Selai

ANOVA

Daya_oles

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.089	2	4.044	6.895	.002
Within Groups	51.033	87	.587		
Total	59.122	89			

Daya_oles

	Jenis Selai	N	Subset for alpha = .05	
			1	2
Tukey HSD[a]	2%	30	-.10	
	1.5%	30	.23	.23
	1.75%	30		.63
	Sig.		.216	.113
Duncan[a]	2%	30	-.10	
	1.5%	30	.23	
	1.75%	30		.63
	Sig.		.095	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30.000.

Lampiran 5.*Worksheet* Uji Ranking Hedonik dan Uji Beda

***Worksheet* Uji Ranking Hedonik dan Uji Beda**

Tanggal uji:

Jenis Sampel: Selai Wortel dan Lemon

Identifikasi sampel	**Kode**
Selai wortel dan lemon dengan penambahan pektin 1,5%	A
Selai wortel dan lemon dengan penambahan pektin 1,75%	B
Selai wortel dan lemon dengan penambahan pektin 2%	C

Kodekombinasiurutanpenyajian:

ABC = 1	BAC = 3	CAB = 5
ACB = 2	BCA = 4	CBA = 6

Penyajian:

Booth	Panelis	KodeSampel[UrutanPenyajian]
I	#1	847 351 585[1]
II	#2	295 949 368[2]
III	#3	452 293 946[3]
IV	#4	784 237 145[4]
I	#5	363 463 155[5]
II	#6	874 792 437[6]
III	#7	626 940 582[7]
IV	#8	512 821 638[8]
I	#9	938 171 458[9]
II	#10	714 882 769[10]
III	#11	457 838 875[11]
IV	#12	531 439 352[12]
I	#13	625 291 662[13]
II	#14	949 559 549[14]
III	#15	793 161 633[15]
IV	#16	375 361 184[16]
I	#17	222 151 233[17]
II	#18	225 927 444[18]

III	#19	751 586 637[19]
IV	#20	683 564 214[20]
I	#21	195 879 536[21]
II	#22	756 725 632[22]
III	#23	921 811 569[23]
IV	#24	313 446 437[24]
I	#25	278 694 373[25]
II	#26	194 768 857[26]
III	#27	256 526 991[27]
IV	#28	633 595 695[28]
I	#29	676 249 461[29]
II	#30	374 559 873[30]

Kode Sampel:

Sampel A	847 295 293 145 463 437 626 512 171 769 838 352 625 949 161 184 151 444 751 683 879 632 811 437 278 194 526 695249 873
Sampel B	351 368452 784 155 792 940 638 938 714 875 439 291 549 793 375 233 927 586 214 195 756 569 446 694 857 256 633 461559
Sampel C	585 949 946 237 363 874 582 821 458 882 457 531 662 559 633 361 222 225 637 564 536 725 921 313 373 768 991 595 676374

Lampiran 6.*Scoresheet* Uji *Ranking* Hedonik dan Uji Beda

UJI RANKING HEDONIK

Nama : Tanggal:

Produk :Selai

Atribut : Rasa

Instruksi :

Di hadapan Anda terdapat 3 jenis sampel selai. Cicipi sampel secara berurutan dari kiri ke kanan, rasakan masing-masing.Setiap pergantian sampel, minumlah terlebih dahulu.Setelah merasakan semua sampel, anda boleh mengulang sesering yang Anda perlukan. Urutkan sampel dari yang rasanya paling **tidak anda sukai** (=1) hingga sampel yang rasanya **paling anda sukai** (=3).

Kode Sampel	**Ranking (jangan ada yang dobel)**
_____	_____
_____	_____
_____	_____

Terima kasih

UJI RANKING HEDONIK

Nama : Tanggal:

Produk : Selai

Atribut : Tekstur

Instruksi :

Di hadapan Anda terdapat 3 jenis sampel selai.Cicipi sampel secara berurutan dari kiri ke kanan, rasakan kelembutan masing-masing sampel.Setiap pergantian sampel, minumlah terlebih dahulu.Setelah merasakan semua sampel, anda boleh mengulang sesering yang Anda perlukan. Urutkan sampel dari yang teksturnya paling **tidak anda sukai** (=1) hingga sampel yang teksturnya **paling anda sukai** (=3).

Kode Sampel	**Ranking (jangan ada yang dobel)**
_____	_____
_____	_____
_____	_____

Terima kasih

UJI RANKING HEDONIK

Nama : Tanggal:

Produk : Selai

Atribut :*Overall*

Instruksi :

Di hadapan Anda terdapat 3 jenis sampel selai. Setelah memberi ranking dari segi rasa, tekstur, dan daya oles anda diminta untuk mengurutkan sampel dari segi keseluruhan/*overall* (rasa, tekstur, dan daya oles). Setelah mengamati semua sampel, anda boleh mengulang sesering yang Anda perlukan. Urutkan sampel dari yang paling **tidak anda sukai** (=1) hingga sampel yang **paling anda sukai** (=3).

Kode Sampel	**Ranking (jangan ada yang dobel)**
_____	_____
_____	_____
_____	_____

Terima kasih

UJI BEDA

Nama : Tanggal:

Produk : Selai

Atribut : Daya Oles

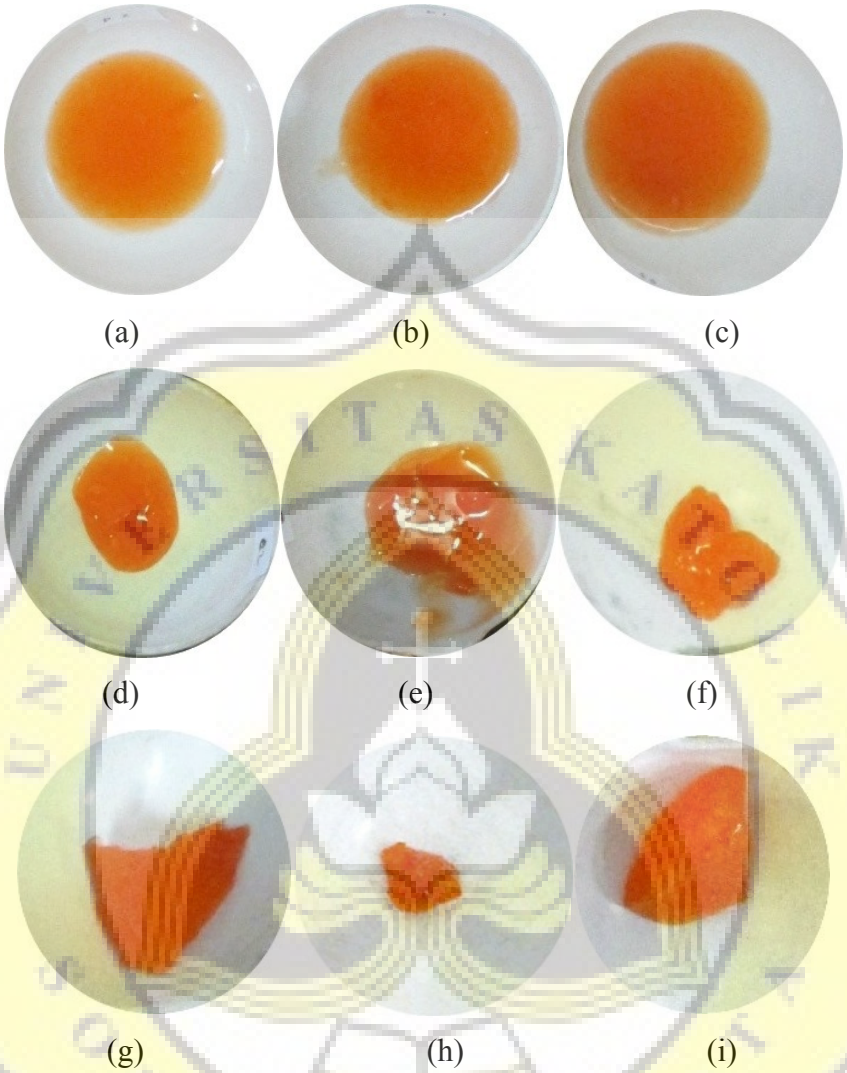
Instruksi :

Di hadapan Anda terdapat 3 jenis sampel selai untuk dibandingkan dengan sampel kontrol di sisi paling kiri ditandai dengan kode K. Oleskan sampel pada masing-masing roti yang sudah disediakan secara berurutan dari kiri ke kanan, Anda boleh mengulang sesering yang Anda perlukan.Penilaian dilakukan dengan cara mengisikan angka **1 jika ada perbedaan yang lebih baik** dibandingkan dengan kontrol, angka **0 jika tidak ada perbedaan** dengan kontrol, dan angka **-1 jika ada perbedaan yang lebih buruk** dibandingkan dengan kontrol.

Kode Sampel	**Penilaian**
_____	_____
_____	_____
_____	_____

Terima kasih

Lampiran 7. Gambar Produk Selai Wortel dan Lemon pada Berbagai Konsentrasi Pektin



Keterangan :(a) Perbandingan bahan wortel 70% dan lemon 30% dengan penambahan pektin 1,5%
(b)Perbandingan bahan wortel 70% dan lemon 30% dengan penambahan pektin 1,75%
(c) Perbandingan bahan wortel 70% dan lemon 30% dengan penambahan pektin 2%
(d) Perbandingan bahan wortel 75% dan lemon 25% dengan penambahan pektin 1,5%
(e) Perbandingan bahan wortel 75% dan lemon 25% dengan penambahan pektin 1,75%
(f) Perbandingan bahan wortel 75% dan lemon 25% dengan penambahan pektin 2%
(g) Perbandingan bahan wortel 80% dan lemon 20% dengan penambahan pektin 1,5%
(h) Perbandingan bahan wortel 80% dan lemon 20% dengan penambahan pektin 1,75%
(i) Perbandingan bahan wortel 80% dan lemon 20% dengan penambahan pektin 2%

Lampiran 8. Gambar Selai Komersial *Marmalade Jam* Merk "Forster" sebagai Kontrol